Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A holographic recording method for converting digital information to a two-dimensional image, allowing an object beam to be subjected to spatial optical modulation based on the two-dimensional image, and irradiating a holographic recording medium with the object beam in conjunction with a reference beam to record the two-dimensional image using interference fringes, wherein

with four or more pixels on the two-dimensional image employed as a unit pixel block, encoded patterns having a different number of ON pixels are allowed to be present at the same time in the unit pixel block to record the two-dimensional image.

2. (Original) The holographic recording method according to claim 1, wherein

when the number of pixels forming the unit pixel block is n, the number of the encoded patterns is a total sum of $_nC_0$ to $_nC_n$.

3. (Canceled)

4. (Currently Amended) ~~The holographic memory reproduction method according to claim 3, wherein~~ A holographic memory reproduction method for reproducing digital information, the digital information being recorded by converting the digital information to a two-dimensional image, and irradiating a holographic recording medium with an object beam having been subjected to spatial optical modulation based on the two-dimensional image, in conjunction with a reference beam to record the two-dimensional image using interference fringes, wherein

the two-dimensional image is recorded, with four or more pixels employed as a unit pixel block and at least two types of encoded patterns having a different number of ON pixels in the unit pixel block being allowed to be present at the same time,

when the number of pixels in the unit pixel block is n, the number of types of the encoded patterns provided is equal to a total sum N of $_nC_0$ to $_nC_n$, and n types of settings are provided for the threshold of the detected beam ~~intensity.~~intensity, and

during a reproduction operation, the number of ON pixels is detected on the per unit pixel block basis, and a threshold of a detected beam intensity between ON and OFF in a two-dimensional image detector used for image detection is set based on the number of ON pixels detected.

5.   (Original) A holographic recording apparatus for converting digital information to a two-dimensional image, allowing an object beam to be intensity modulated using a spatial light modulator based on the two-dimensional image, and irradiating a holographic recording medium with the object beam in conjunction with a reference beam to record the two-dimensional image using interference fringes, wherein

the spatial light modulator is configured to display a two-dimensional image, with four or more pixels on the two-dimensional image employed as a unit pixel block and with at least two types of encoded patterns having a different number of ON pixels in the unit pixel block being allowed to be present at the same time.

6.   (Original) The holographic recording apparatus according to claim 5, wherein

when the number of pixels in the unit pixel block is n, the spatial light modulator is configured to display encoded patterns of types equal in number to a total sum N of $_nC_0$ to $_nC_n$.

7.   (Canceled)

8.   (Currently Amended) ~~The holographic memory reproduction apparatus according to claim 7, wherein~~ A holographic memory reproduction apparatus for reproducing digital information by a two-dimensional photodetector used for image detection, the digital information being recorded by converting the digital information to a two-dimensional image,

and irradiating a holographic recording medium with an object beam having been subjected to spatial optical modulation based on the two-dimensional image, in conjunction with a reference beam to record the two-dimensional image using interference fringes, wherein

the two-dimensional image is recorded, with four or more pixels employed as a unit pixel block and with at least two types of encoded patterns having a different number of ON pixels in the unit pixel block being allowed to be present at the same time,

the holographic memory reproduction apparatus has an ON pixel number detector for detecting the number of ON pixels on the per unit pixel block basis, and a threshold setter for setting a threshold of a detected beam intensity between ON and OFF in the two-dimensional photodetector based on the number of ON pixels detected by the ON pixel number detector, and

when the number of pixels in the unit pixel block is n, the number of types of encoded patterns displayed by the spatial light modulator is set to be equal to a total sum N of $_nC_0$ to $_nC_n$, and the threshold setter is allowed to provide n types of settings for the threshold.